SECRETARIAT

TABLE OF LOGARITHMS

LIBR.

OF

RUPEES, ANNAS AND PIES,

FROM

ONE PIE TO SEVEN RUPEES,

TO WHICH IS ADDED

A TABLE OF DECIMALS OF A RUPEE.

BY

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47

BENGAL SECRETARIAT LIBRARY.

INTRODUCTORY

TO

TABLE OF LOGARITHMS.

I compiled the following Table of Logarithms for my own use, when I was employed in the Settlement Department. In the calculation of rates of assessment it not only insures correctness, but saves from one-half to two-thirds of the time required for calculating the rates by simple arithmetic, and it is now therefore published, under the sanction of the Board of Revenue, for the use of Collectors and Settlement Officers.

The various purposes to which the Table may be applied will readily suggest themselves to Officers who have been accustomed to the use of Logarithms; but the following explanations and examples of its application to some of the processes of a Revenue Settlement may be found useful.

As the Logarithms are calculated to only 5 places, it is unnecessary to take down more than the first five figures of the Logarithms of numbers from any table of Logarithms of numbers that may be used. But if use is made of a table of Logarithms of 6 figures, and the 6th figure is more than 5; or in a table calculated to seven or eight places, if the discarded figures are more than 50 or 500, then the fifth figure should be increased by one. For instance, the Logarithm of 7 is 0·8450980, and this to five places would be 0·84510. The Logarithm of 67 being 1·8260748, the same to five places would be 1·82607.

Suppose it were required to find the rates of the following settlement:—

Juma.	Total Area.	Total Malgoozaree.	Cultivated.
1,377	2145	1419	592

set down the Logarithm of the juma in three places, and underneath the Logarithms of the total area, malgoozaree and cultivated land respectively. Deduct the Logarithms in the lower line from those in the upper, and the remainders will be the Logarithms of the rates.

Logarithms of 1377,	3·13893	3·13893	3·13893
(a) Log: of total Area,	(*a*) 3·33143	(*b*) 3·15198	(*c*) 2·77232
(b) Log: of Malgoozaree,	—1·80750	—1·98695	0·36661
(c) Log: of Cultivation,	Rs. 0-10-3	Rs. 0-15-6	Rs. 2-5-3

In practice it is unnecessary to use the indices, for there never can be a doubt as to whether the required rate is the one answering to the Logarithm with the index—2.—1, or 0. For instance, the Logarithm 80750 (with index undefined) will answer to the several rates of Rs. 0-1-0, Rs. 0-10-3, and Rs. 6-6-9, and it must be seen at a glance that the rate is 0-10-3.

The Logarithms would therefore be taken down as follows :—

13893	13893	13893
33143	15198	77232
80750	98695	36661

In the inverse process of calculating assessments from rates, the table is equally useful. Exact correctness of calculation, extending to the fractions of a rupee, is not here attainable, but this is of no moment, as it is not needed.

Example.—To find the assessment of 937 acres at Rs. 2-4-11—

Log: of Rs. 2-4-11, ...	36310
Log: of 937, ...	97174
	33484

33484 is the Logarithm of Rs. 2,162, which is therefore the required amount. The exact amount is something less. The Logarithm would make it Rs. 2,161$\frac{19}{21}$, but the nearest whole number is all that is required in these cases, and that may be found correctly by Logarithms. The result by arithmetic is Rs. 2,161-14-11.

For calculations of assessments of small quantities of land, measured either in beeghas or acres, the table will be found very useful. The Settlement Officer should make a note of the Logarithms required to convert acres into the standard beeghas of his district, and beeghas into acres, as follows :—

Allahabad District.

Acre, ...	∴	4810	square yards.
Beegha, ...	...	2730	Ditto.

To turn beeghas into acres—

Log : of	$\frac{2730}{4810}$	is	— 1·75131

To turn acres into beeghas—

Log : of	$\frac{4810}{2730}$	is	0·24869

How many acres are 968 beeghas?

Log : of 968	...	2·98588
		— 1·75131
		2·73719

2·73719 is Log : of 516.

What is the assessment of beeghas 4·17 at the rate of Rs. 2-7-9 per acre?

Converting the biswahs into a decimal fraction—

Log : of 4·85 is	...	...	0·68571
Log : of Rs. 2-7-9 is	...	...	0·39522
Log : for conversion,	...	...	— 1·75131
		Log. of Rs. 6-12-9 =	0·83227

Answer Rs. 6-12-9.

If the result should be more than 7 Rupees, the answer can not be found in the table of Logarithms of Rupees, Annas and Pies, but may be taken with sufficient exactness from any table of Logarithms of numbers. In the above example, for instance, 0·83227 is the Logarithm of 6·796. A table of Decimals of a Rupee is appended to the table of Logarithms, and referring to this table, ·796 is found to be the decimal answering to Rs. 0-12-9.

Perhaps the above examples of the use which may be made of the table will be deemed sufficient.

As connected with the subject of measurements, I will however add a very curious and ingenious and mathematically correct rule, which, as I have been informed, is used in Bengal, but is not known in these Provinces. It is for calculating biswahs and biswansees when the measures of length and breadth of a field each exceed ten ghatas (or $\frac{10}{20}$ of a jureeb). Deduct each measure from 20, and the product of the remainders will give the biswansees. The sum of the units of the measures will give the biswahs.

Example.—Suppose the field to be 15 × 13.

```
 15
 13
 --
  8
  1·15
 -----
 9·15
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The area is 9 biswas 15 biswansees. The 8 biswas are obtained by adding together the 5 and the 3, and the 35 biswansees by multiplying together 5 and 7, or (20—15) and (20—13.)

R. MONEY.

ALLAHABAD :
The 7th April 1864.

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
0	0	1	—3·71670	0	4	1	—1·40689
0	0	2	—2·01773	0	4	2	—1·41567
0	0	3	—2·19382	0	4	3	—1·42427
0	0	4	—2·31876	0	4	4	—1·43270
0	0	5	—2·41567	0	4	5	—1·44097
0	0	6	—2·49485	0	4	6	—1·44909
0	0	7	—2·56180	0	4	7	—1·45706
0	0	8	—2·61979	0	4	8	—1·46489
0	0	9	—2·67094	0	4	9	—1·47257
0	0	10	—2·71670	0	4	10	—1·48013
0	0	11	—2·75809	0	4	11	—1·48755
0	1	0	—2·79588	0	5	0	—1·49485
0	1	1	—2·83064	0	5	1	—1·50203
0	1	2	—2·86283	0	5	2	—1·50909
0	1	3	—2·89279	0	5	3	—1·51604
0	1	4	—2·92082	0	5	4	—1·52288
0	1	5	—2·94715	0	5	5	—1·52961
0	1	6	—2·97197	0	5	6	—1·53624
0	1	7	—2·99545	0	5	7	—1·54277
0	1	8	—1·01773	0	5	8	—1·54921
0	1	9	—1·03892	0	5	9	—1·55555
0	1	10	—1·05912	0	5	10	—1·56180
0	1	11	—1·07843	0	5	11	—1·56796
0	2	0	—1·09691	0	6	0	—1·57403
0	2	1	—1·11464	0	6	1	—1·58002
0	2	2	—1·13167	0	6	2	—1·58593
0	2	3	—1·14806	0	6	3	—1·59176
0	2	4	—1·16386	0	6	4	—1·59751
0	2	5	—1·17910	0	6	5	—1·60319
0	2	6	—1·19382	0	6	6	—1·60879
0	2	7	—1·20806	0	6	7	—1·61433
0	2	8	—1·22185	0	6	8	—1·61979
0	2	9	—1·23521	0	6	9	—1·62518
0	2	10	—1·24818	0	6	10	—1·63051
0	2	11	—1·26077	0	6	11	—1·63578
0	3	0	—1·27300	0	7	0	—1·64098
0	3	1	—1·28490	0	7	1	—1·64612
0	3	2	—1·29648	0	7	2	—1·65120
0	3	3	—1·30776	0	7	3	—1·65622
0	3	4	—1·31876	0	7	4	—1·66118
0	3	5	—1·32948	0	7	5	—1·66609
0	3	6	—1·33995	0	7	6	—1·67094
0	3	7	—1·35017	0	7	7	—1·67574
0	3	8	—1·36015	0	7	8	—1·68049
0	3	9	—1·36991	0	7	9	—1·68518
0	3	10	—1·37946	0	7	10	—1·68983
0	3	11	—1·38880	0	7	11	—1·69442
0	4	0	—1·39794	0	8	0	—1·69897

Rs.	*As.*	*Ps.*	*Logarithms.*	*Rs.*	*As.*	*Ps.*	*Logarithms.*
0	8	1	—1·70347	0	12	1	—1·87807
0	8	2	—1·70792	0	12	2	—1·88105
0	8	3	—1·71233	0	12	3	—1·88402
0	8	4	—1·71670	0	12	4	—1·88696
0	8	5	—1·72102	0	12	5	—1·88989
0	8	6	—1·72530	0	12	6	—1·89279
0	8	7	—1·72954	0	12	7	—1·89568
0	8	8	—1·73373	0	12	8	—1·89854
0	8	9	—1·73789	0	12	9	—1·90139
0	8	10	—1·74200	0	12	10	—1·90422
0	8	11	—1·74608	0	12	11	—1·90703
0	9	0	—1·75012	0	13	0	—1·90982
0	9	1	—1·75413	0	13	1	—1·91260
0	9	2	—1·75809	0	13	2	—1·91536
0	9	3	—1·76202	0	13	3	—1·91810
0	9	4	—1·76592	0	13	4	—1·92082
0	9	5	—1·76978	0	13	5	—1·92352
0	9	6	—1·77360	0	13	6	—1·92621
0	9	7	—1·77740	0	13	7	—1·92889
0	9	8	—1·78116	0	13	8	—1·93154
0	9	9	—1·78488	0	13	9	—1·93418
0	9	10	—1·78858	0	13	10	—1·93681
0	9	11	—1·79225	0	13	11	—1·93942
0	10	0	—1·79588	0	14	0	—1·94201
0	10	1	—1·79948	0	14	1	—1·94459
0	10	2	—1·80306	0	14	2	—1·94715
0	10	3	—1·80660	0	14	3	—1·94969
0	10	4	—1·81012	0	14	4	—1·95223
0	10	5	—1·81361	0	14	5	—1·95474
0	10	6	—1·81707	0	14	6	—1·95725
0	10	7	—1·82050	0	14	7	—1·95974
0	10	8	—1·82391	0	14	8	—1·96221
0	10	9	—1·82729	0	14	9	—1·96467
0	10	10	—1·83064	0	14	10	—1·96712
0	10	11	—1·83397	0	14	11	—1·96955
0	11	0	—1·83727	0	15	0	—1·97197
0	11	1	—1·84055	0	15	1	—1·97438
0	11	2	—1·84380	0	15	2	—1·97677
0	11	3	—1·84703	0	15	3	—1·97915
0	11	4	—1·85024	0	15	4	—1·98152
0	11	5	—1·85342	0	15	5	—1·98387
0	11	6	—1·85658	0	15	6	—1·98621
0	11	7	—1·85971	0	15	7	—1·98854
0	11	8	—1·86283	0	15	8	—1·99086
0	11	9	—1·86592	0	15	9	—1·99316
0	11	10	—1·86899	0	15	10	—1·99545
0	11	11	—1·87203	0	15	11	—1·99773
0	12	0	—1·87506	1	0	0	0·00000

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
1	0	1	0·00226	1	4	1	0·09872
1	0	2	0·00450	1	4	2	0·10051
1	0	3	0·00673	1	4	3	0·10231
1	0	4	0·00895	1	4	4	0·10409
1	0	5	0·01117	1	4	5	0·10586
1	0	6	0·01336	1	4	6	0·10763
1	0	7	0·01555	1	4	7	0·10940
1	0	8	0·01773	1	4	8	0·11115
1	0	9	0·01989	1	4	9	0·11290
1	0	10	0·02205	1	4	10	0·11464
1	0	11	0·02419	1	4	11	0·11637
1	1	0	0·02633	1	5	0	0·11810
1	1	1	0 02845	1	5	1	0·11982
1	1	2	0·03057	1	5	2	0·12153
1	1	3	0·03267	1	5	3	0·12324
1	1	4	0·03476	1	5	4	0·12494
1	1	5	0·03685	1	5	5	0·12663
1	1	6	0·03892	1	5	6	0·12832
1	1	7	0·04098	1	5	7	0·13000
1	1	8	0·04303	1	5	8	0·13167
1	1	9	0·04508	1	5	9	0·13334
1	1	10	0·04713	1	5	10	0·13500
1	1	11	0·04914	1	5	11	0·13665
1	2	0	0·05115	1	6	0	0 13830
1	2	1	0·05316	1	6	1	0·13994
1	2	2	0·05516	1	6	2	0·14158
1	2	3	0·05714	1	6	3	0.14321
1	2	4	0·05912	1	6	4	0·14483
1	2	5	0·06109	1	6	5	0·14645
1	2	6	0·06305	1	6	6	0·14806
1	2	7	0·06500	1	6	7	0·14967
1	2	8	0·06695	1	6	8	0·15127
1	2	9	0·06888	1	6	9	0·15286
1	2	10	0·07081	1	6	10	0·15445
1	2	11	0·07272	1	6	11	0 15603
1	3	0	0·07463	1	7	0	0·15761
1	3	1	0·07653	1	7	1	0·15918
1	3	2	0 07843	1	7	2	0·16074
1	3	3	0·08031	1	7	3	0·16230
1	3	4	0·08219	1	7	4	0·16386
1	3	5	0·08405	1	7	5	0·16541
1	3	6	0·08591	1	7	6	0·16695
1	3	7	0·08777	1	7	7	0·16849
1	3	8	0·08961	1	7	8	0·17002
1	3	9	0·09145	1	7	9	0·17154
1	3	10	0·09328	1	7	10	0·17306
1	3	11	0·09510	1	7	11	0·17458
1	4	0	0·09691	1	8	0	0·17609

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
1	8	1	0·17760	1	12	1	0·24433
1	8	2	0 17910	1	12	2	0·24562
1	8	3	0·18059	1	12	3	0·24690
1	8	4	0·18208	1	12	4	0·24818
1	8	5	0·18357	1	12	5	0·24945
1	8	6	0·18505	1	12	6	0·25072
1	8	7	0·18652	1	12	7	0·25199
1	8	8	0·18799	1	12	8	0·25326
1	8	9	0·18946	1	12	9	0·25452
1	8	10	0·19092	1	12	10	0·25577
1	8	11	0·19237	1	12	11	0·25703
1	9	0	0·19382	1	13	0	0·25828
1	9	1	0·19527	1	13	1	0·25952
1	9	2	0·19671	1	13	2	0·26077
1	9	3	0·19814	1	13	3	0·26201
1	9	4	0·19957	1	13	4	0·26324
1	9	5	0·20100	1	13	5	0·26447
1	9	6	0·20242	1	13	6	0·26570
1	9	7	0·20384	1	13	7	0·26693
1	9	8	0·20525	1	13	8	0·26815
1	9	9	0·20666	1	13	9	0·26937
1	9	10	0·20806	1	13	10	0·27058
1	9	11	0·20946	1	13	11	0·27179
1	10	0	0·21085	1	14	0	0·27300
1	10	1	0 21224	1	14	1	0 27421
1	10	2	0·21363	1	14	2	0·27541
1	10	3	0·21501	1	14	3	0·27661
1	10	4	0·21639	1	14	4	0·27780
1	10	5	0·21776	1	14	5	0·27899
1	10	6	0·21913	1	14	6	0·28018
1	10	7	0·22049	1	14	7	0·28136
1	10	8	0·22185	1	14	8	0·28255
1	10	9	0·22320	1	14	9	0·28373
1	10	10	0·22455	1	14	10	0·28490
1	10	11	0·22590	1	14	11	0·28607
1	11	0	0 22724	1	15	0	0·28724
1	11	1	0·22858	1	15	1	0·28841
1	11	2	0·22992	1	15	2	0·28957
1	11	3	0·23125	1	15	3	0·29073
1	11	4	0·23257	1	15	4	0·29189
1	11	5	0·23389	1	15	5	0·29304
1	11	6	0·23521	1	15	6	0·29419
1	11	7	0·23653	1	15	7	0·29534
1	11	8	0·23784	1	15	8	0·29648
1	11	9	0·23914	1	15	9	0·29762
1	11	10	0·24045	1	15	10	0·29876
1	11	11	0·24174	1	15	11	0·29990
1	12	0	0·24304	2	0	0	0·30103

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
2	0	1	0·30216	2	4	1	0·35319
2	0	2	0·30329	2	4	2	0·35419
2	0	3	0·30441	2	4	3	0·35519
2	0	4	0·30553	2	4	4	0·35619
2	0	5	0·30665	2	4	5	0·35718
2	0	6	0·30776	2	4	6	0·35817
2	0	7	0·30888	2	4	7	0 35916
2	0	8	0·30998	2	4	8	0·36015
2	0	9	0·31109	2	4	9	0·36114
2	0	10	0·31220	2	4	10	0·36212
2	0	11	0·31330	2	4	11	0·36310
2	1	0	0·31439	2	5	0	0·36408
2	1	1	0·31549	2	5	1	0·36506
2	1	2	0·31658	2	5	2	0·36603
2	1	3	0·31767	2	5	3	0·36701
2	1	4	0·31876	2	5	4	0·36798
2	1	5	0·31984	2	5	5	0·36895
2	1	6	0·32092	2	5	6	0·36991
2	1	7	0·32200	2	5	7	0·37088
2	1	8	0·32308	2	5	8	0·37184
2	1	9	0·32415	2	5	9	0·37280
2	1	10	0·32522	2	5	10	0·37375
2	1	11	0·32629	2	5	11	0·37471
2	2	0	0·32736	2	6	0	0·37566
2	2	1	0·32842	2	6	1	0·37661
2	2	2	0·32948	2	6	2	0·37756
2	2	3	0·33054	2	6	3	0·37851
2	2	4	0·33160	2	6	4	0·37946
2	2	5	0·33265	2	6	5	0·38040
2	2	6	0·33370	2	6	6	0·38134
2	2	7	0·33475	2	6	7	0·38228
2	2	8	0·33579	2	6	8	0·38322
2	2	9	0·33683	2	6	9	0·38415
2	2	10	0·33788	2	6	10	0·38508
2	2	11	0 33891	2	6	11	0·38602
2	3	0	0·33995	2	7	0	0·38694
2	3	1	0·34098	2	7	1	0·38787
2	3	2	0·34201	2	7	2	0·38880
2	3	3	0·34304	2	7	3	0·38972
2	3	4	0·34406	2	7	4	0·39064
2	3	5	0·34509	2	7	5	0·39156
2	3	6	0·34611	2	7	6	0·39248
2	3	7	0·34713	2	7	7	0·39339
2	3	8	0·34814	2	7	8	0·39431
2	3	9	0·34916	2	7	9	0·39522
2	3	10	0·35017	2	7	10	0·39613
2	3	11	0·35118	2	7	11	0·39703
2	4	0	0·35218	2	8	0	0·39794

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
2	8	1	0·39884	2	12	1	0·44015
2	8	2	0·39975	2	12	2	0·44097
2	8	3	0·40065	2	12	3	0·44179
2	8	4	0·40154	2	12	4	0·44261
2	8	5	0·40244	2	12	5	0·44343
2	8	6	0·40334	2	12	6	0·44424
2	8	7	0·40423	2	12	7	0·44505
2	8	8	0·40512	2	12	8	0·44586
2	8	9	0·40601	2	12	9	0·44667
2	8	10	0·40689	2	12	10	0·44748
2	8	11	0·40778	2	12	11	0·44829
2	9	0	0·40866	2	13	0	0·44909
2	9	1	0·40955	2	13	1	0·44990
2	9	2	0·41043	2	13	2	0·45070
2	9	3	0·41130	2	13	3	0·45150
2	9	4	0·41218	2	13	4	0·45230
2	9	5	0·41306	2	13	5	0·45310
2	9	6	0·41393	2	13	6	0 45389
2	9	7	0·41480	2	13	7	0·45469
2	9	8	0 41567	2	13	8	0·45548
2	9	9	0·41654	2	13	9	0·45627
2	9	10	0·41740	2	13	10	0·45706
2	9	11	0·41827	2	13	11	0·45785
2	10	0	0·41913	2	14	0	0·45864
2	10	1	0 41999	2	14	1	0·45942
2	10	2	0·42085	2	14	2	0·46021
2	10	3	0·42171	2	14	3	0·46099
2	10	4	0·42256	2	14	4	0·46177
2	10	5	0·42342	2	14	5	0·46255
2	10	6	0·42427	2	14	6	0·46333
2	10	7	0·42512	2	14	7	0·46411
2	10	8	0·42597	2	14	8	0·46489
2	10	9	0·42682	2	14	9	0·46566
2	10	10	0·42766	2	14	10	0·46644
2	10	11	0·42851	2	14	11	0·46721
2	11	0	0 42935	2	15	0	0·46798
2	11	1	0·43019	2	15	1	0·46875
2	11	2	0·43103	2	15	2	0·46952
2	11	3	0·43187	2	15	3	0·47028
2	11	4	0·43270	2	15	4	0·47105
2	11	5	0 43354	2	15	5	0·47181
2	11	6	0·43437	2	15	6	0·47257
2	11	7	0·43520	2	15	7	0·47333
2	11	8	0·43603	2	15	8	0·47409
2	11	9	0·43686	2	15	9	0·47485
2	11	10	0·43768	2	15	10	0·47561
2	11	11	0·43851	2	15	11	0·47637
2	12	0	0·43933	3	0	0	0·47712

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
3	0	1	0·47787	3	4	1	0·51258
3	0	2	0·47863	3	4	2	0·51327
3	0	3	0·47938	3	4	3	0 51397
3	0	4	0·48013	3	4	4	0·51466
3	0	5	0·48087	3	4	5	0·51535
3	0	6	0·48162	3	4	6	0·51604
3	0	7	0 48237	3	4	7	0·51673
3	0	8	0·48311	3	4	8	0·51742
3	0	9	0·48385	3	4	9	0·51810
3	0	10	0·48460	3	4	10	0·51879
3	0	11	0·48534	3	4	11	0·51947
3	1	0	0·48608	3	5	0	0·52016
3	1	1	0·48681	3	5	1	0·52084
3	1	2	0·48755	3	5	2	0·52152
3	1	3	0·48829	3	5	3	0·52220
3	1	4	0·48902	3	5	4	0·52288
3	1	5	0·48975	3	5	5	0·52356
3	1	6	0 49049	3	5	6	0·52423
3	1	7	0·49122	3	5	7	0·52491
3	1	8	0·49195	3	5	8	0·52558
3	1	9	0·49267	3	5	9	0·52626
3	1	10	0 49340	3	5	10	0·52693
3	1	11	0·49413	3	5	11	0·52760
3	2	0	0·49485	3	6	0	0·52827
3	2	1	0·49557	3	6	1	0·52894
3	2	2	0·49630	3	6	2	0·52961
3	2	3	0 49702	3	6	3	0·53028
3	2	4	0·49774	3	6	4	0·53095
3	2	5	0·49845	3	6	5	0·53161
3	2	6	0·49917	3	6	6	0·53228
3	2	7	0·49989	3	6	7	0·53294
3	2	8	0·50060	3	6	8	0·53360
3	2	9	0·50132	3	6	9	0·53426
3	2	10	0 50203	3	6	10	0·53492
3	2	11	0·50274	3	6	11	0·53558
3	3	0	0·50345	3	7	0	0·53624
3	3	1	0·50416	3	7	1	0·53690
3	3	2	0 50487	3	7	2	0·53756
3	3	3	0·50557	3	7	3	0·53821
3	3	4	0·50628	3	7	4	0·53887
3	3	5	0·50698	3	7	5	0·53952
3	3	6	0·50769	3	7	6	0·54017
3	3	7	0·50839	3	7	7	0·54082
3	3	8	0·50909	3	7	8	0·54148
3	3	9	0·50979	3	7	9	0·54212
3	3	10	0·51049	3	7	10	0·54277
3	3	11	0 51119	3	7	11	0·54342
3	4	0	0·51188	3	8	0	0·54407

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
3	8	1	0·54471	3	12	1	0·57463
3	8	2	0·54536	3	12	2	0·57524
3	8	3	0·54600	3	12	3	0·57584
3	8	4	0·54665	3	12	4	0·57644
3	8	5	0·54729	3	12	5	0·57704
3	8	6	0·54793	3	12	6	0·57764
3	8	7	0·54857	3	12	7	0·57823
3	8	8	0·54921	3	12	8	0·57883
3	8	9	0·54985	3	12	9	0·57943
3	8	10	0·55048	3	12	10	0 58002
3	8	11	0·55112	3	12	11	0·58062
3	9	0	0·55175	3	13	0	0·58121
3	9	1	0·55239	3	13	1	0·58180
3	9	2	0·55302	3	13	2	0·58239
3	9	3	0·55366	3	13	3	0·58299
3	9	4	0·55429	3	13	4	0·58358
3	9	5	0·55492	3	13	5	0·58417
3	9	6	0·55555	3	13	6	0·58476
3	9	7	0·55618	3	13	7	0·58534
3	9	8	0·55680	3	13	8	0·58593
3	9	9	0·55743	3	13	9	0·58652
3	9	10	0·55806	3	13	10	0·58710
3	9	11	0·55868	3	13	11	0·58769
3	10	0	0·55931	3	14	0	0·58827
3	10	1	0·55993	3	14	1	0 58886
3	10	2	0 56055	3	14	2	0·58944
3	10	3	0·56118	3	14	3	0·59002
3	10	4	0·56180	3	14	4	0·59060
3	10	5	0·56242	3	14	5	0·59118
3	10	6	0·56304	3	14	6	0·59176
3	10	7	0·56365	3	14	7	0·59234
3	10	8	0·56427	3	14	8	0·59292
3	10	9	0·56489	3	14	9	0·59349
3	10	10	0·56550	3	14	10	0·59407
3	10	11	0·56612	3	14	11	0·59465
3	11	0	0·56673	3	15	0	0·59522
3	11	1	0·56734	3	15	1	0·59579
3	11	2	0·56796	3	15	2	0·59637
3	11	3	0·56857	3	15	3	0·59694
3	11	4	0·56918	3	15	4	0·59751
3	11	5	0 56979	3	15	5	0·59808
3	11	6	0·57040	3	15	6	0·59865
3	11	7	0·57100	3	15	7	0·59922
3	11	8	0·57161	3	15	8	0·59979
3	11	9	0·57222	3	15	9	0·60036
3	11	10	0·57282	3	15	10	0·60093
3	11	11	0·57343	3	15	11	0·60149
3	12	0	0·57403	4	0	0	0·60206

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
4	0	1	0·60263	4	4	1	0·62892
4	0	2	0·60319	4	4	2	0·62945
4	0	3	0·60375	4	4	3	0·62998
4	0	4	0 60432	4	4	4	0·63051
4	0	5	0·60488	4	4	5	0·63104
4	0	6	0 60544	4	4	6	0·63157
4	0	7	0 60600	4	4	7	0·63210
4	0	8	0 60656	4	4	8	0·63263
4	0	9	0 60712	4	4	9	0·63315
4	0	10	0·60768	4	4	10	0·63368
4	0	11	0·60824	4	4	11	0·63420
4	1	0	0 60879	4	5	0	0·63473
4	1	1	0·60935	4	5	1	0·63525
4	1	2	0 60991	4	5	2	0·63578
4	1	3	0 61046	4	5	3	0·63630
4	1	4	0 61101	4	5	4	0·63682
4	1	5	0·61157	4	5	5	0·63734
4	1	6	0·61212	4	5	6	0·63786
4	1	7	0 61267	4	5	7	0·63839
4	1	8	0·61323	4	5	8	0·63891
4	1	9	0·61378	4	5	9	0·63942
4	1	10	0·61433	4	5	10	0·63994
4	1	11	0·61488	4	5	11	0·64046
4	2	0	0 61542	4	6	0	0·64098
4	2	1	0·61597	4	6	1	0·64149
4	2	2	0·61652	4	6	2	0·64201
4	2	3	0·61707	4	6	3	0·64253
4	2	4	0·61761	4	6	4	0·64304
4	2	5	0 61816	4	6	5	0·64356
4	2	6	0·61870	4	6	6	0·64407
4	2	7	0·61925	4	6	7	0·64158
4	2	8	0·61979	4	6	8	0·64509
4	2	9	0·62033	4	6	9	0·64561
4	2	10	0·62087	4	6	10	0·64612
4	2	11	0·62141	4	6	11	0·64663
4	3	0	0 62195	4	7	0	0·64714
4	3	1	0·62249	4	7	1	0·64765
4	3	2	0·62303	4	7	2	0·64816
4	3	3	0·62357	4	7	3	0·64866
4	3	4	0·62411	4	7	4	0·64917
4	3	5	0·62465	4	7	5	0·64968
4	3	6	0·62518	4	7	6	0·65019
4	3	7	0·62572	4	7	7	0·65069
4	3	8	0·62625	4	7	8	0·65120
4	3	9	0 62679	4	7	9	0·65170
4	3	10	0·62732	4	7	10	0·65221
4	3	11	0·62786	4	7	11	0·65271
4	4	0	0·62839	4	8	0	0·65321

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
4	8	1	0·65371	4	12	1	0 67717
4	8	2	0·65422	4	12	2	0·67764
4	8	3	0·65472	4	12	3	0·67812
4	8	4	0·65522	4	12	4	0·67859
4	8	5	0·65572	4	12	5	0·67907
4	8	6	0·65622	4	12	6	0·67954
4	8	7	0·65672	4	12	7	0 68001
4	8	8	0·65722	4	12	8	0·68049
4	8	9	0·65771	4	12	9	0·68096
4	8	10	0·65821	4	12	10	0·68143
4	8	11	0·65871	4	12	11	0·68190
4	9	0	0·65920	4	13	0	0·68237
4	9	1	0 65970	4	13	1	0·68284
4	9	2	0·66019	4	13	2	0·68331
4	9	3	0·66069	4	13	3	0·68378
4	9	4	0 66118	4	13	4	0·68425
4	9	5	0·66167	4	13	5	0·68471
4	9	6	0 66217	4	13	6	0·68518
4	9	7	0 66266	4	13	7	0·68565
4	9	8	0·66315	4	13	8	0·68611
4	9	9	0·66364	4	13	9	0·68658
4	9	10	0·66413	4	13	10	0·68705
4	9	11	0·66462	4	13	11	0·68751
4	10	0	0 66511	4	14	0	0·68797
4	10	1	0·66560	4	14	1	0·68844
4	10	2	0·66609	4	14	2	0 68890
4	10	3	0·66658	4	14	3	0·68936
4	10	4	0·66706	4	14	4	0·68983
4	10	5	0·66755	4	14	5	0·69029
4	10	6	0·66804	4	14	6	0·69075
4	10	7	0·66852	4	14	7	0·69121
4	10	8	0·66901	4	14	8	0·69167
4	10	9	0·66949	4	14	9	0·69213
4	10	10	0·66998	4	14	10	0 69259
4	10	11	0·67046	4	14	11	0·69305
4	11	0	0·67094	4	15	0	0·69351
4	11	1	0·67142	4	15	1	0·69396
4	11	2	0 67191	4	15	2	0·69442
4	11	3	0·67239	4	15	3	0·69488
4	11	4	0·67287	4	15	4	0·69534
4	11	5	0·67335	4	15	5	0·69579
4	11	6	0·67383	4	15	6	0·69625
4	11	7	0·67431	4	15	7	0·69670
4	11	8	0·67478	4	15	8	0·69716
4	11	9	0 67526	4	15	9	0·69761
4	11	10	0·67574	4	15	10	0·69806
4	11	11	0·67622	4	15	11	0·69852
4	12	0	0·67669	5	0	0	0·69897

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
5	0	1	0·69942	5	4	1	0·72059
5	0	2	0·69987	5	4	2	0·72102
5	0	3	0·70033	5	4	3	0·72145
5	0	4	0·70078	5	4	4	0·72188
5	0	5	0·70123	5	4	5	0·72231
5	0	6	0·70168	5	4	6	0·72274
5	0	7	0·70213	5	4	7	0·72316
5	0	8	0·70257	5	4	8	0·72359
5	0	9	0·70302	5	4	9	0·72402
5	0	10	0·70347	5	4	10	0·72445
5	0	11	0·70392	5	4	11	0·72487
5	1	0	0·70437	5	5	0	0·72530
5	1	1	0·70481	5	5	1	0·72572
5	1	2	0·70526	5	5	2	0·72615
5	1	3	0·70570	5	5	3	0·72657
5	1	4	0·70615	5	5	4	0·72700
5	1	5	0·70659	5	5	5	0·72742
5	1	6	0·70704	5	5	6	0·72785
5	1	7	0·70748	5	5	7	0·72827
5	1	8	0·70792	5	5	8	0·72869
5	1	9	0·70837	5	5	9	0·72911
5	1	10	0·70881	5	5	10	0·72954
5	1	11	0·70925	5	5	11	0·72996
5	2	0	0·70969	5	6	0	0·73038
5	2	1	0·71013	5	6	1	0·73080
5	2	2	0·71058	5	6	2	0·73122
5	2	3	0·71102	5	6	3	0·73164
5	2	4	0·71146	5	6	4	0·73206
5	2	5	0·71190	5	6	5	0·73248
5	2	6	0·71233	5	6	6	0·73290
5	2	7	0·71277	5	6	7	0·73331
5	2	8	0·71321	5	6	8	0·73373
5	2	9	0·71365	5	6	9	0·73415
5	2	10	0·71409	5	6	10	0·73457
5	2	11	0·71452	5	6	11	0·73498
5	3	0	0·71496	5	7	0	0·73540
5	3	1	0·71539	5	7	1	0·73582
5	3	2	0·71583	5	7	2	0·73623
5	3	3	0·71626	5	7	3	0·73665
5	3	4	0·71670	5	7	4	0·73706
5	3	5	0·71713	5	7	5	0·73747
5	3	6	0·71757	5	7	6	0·73789
5	3	7	0·71800	5	7	7	0·73830
5	3	8	0·71843	5	7	8	0·73871
5	3	9	0·71886	5	7	9	0·73913
5	3	10	0·71930	5	7	10	0·73954
5	3	11	0·71973	5	7	11	0·73995
5	4	0	0·72016	5	8	0	0·74036

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
5	8	1	0·74077	5	12	1	0·76006
5	8	2	0·74118	5	12	2	0·76045
5	8	3	0·74159	5	12	3	0.76085
5	8	4	0·74200	5	12	4	0·76124
5	8	5	0·74241	5	12	5	0·76163
5	8	6	0·74282	5	12	6	0·76202
5	8	7	0·74323	5	12	7	0·76241
5	8	8	0·74364	5	12	8	0·76280
5	8	9	0 74405	5	12	9	0·76319
5	8	10	0:74446	5	12	10	0·76358
5	8	11	0·74486	5	12	11	0·76397
5	9	0	0·74527	5	13	0	0·76436
5	9	1	0·74568	5	13	1	0·76475
5	9	2	0·74608	5	13	2	0·76514
5	9	3	0·74649	5	13	3	0·76553
5	9	4	0·74689	5	13	4	0·76592
5	9	5	0·74730	5	13	5	0·76630
5	9	6	0.74770	5	13	6	0·76669
5	9	7	0·74811	5	13	7	0·76708
5	9	8	0·74851	5	13	8	0·76747
5	9	9	0·74891	5	13	9	0·76785
5	9	10	0·74932	5	13	10	0·76824
5	9	11	0·74972	5	13	11	0·76862
5	10	0	0·75012	5	14	0	0·76901
5	10	1	0·75052	5	14	1	0·76939
5	10	2	0·75093	5	14	2	0·76978
5	10	3	0·75133	5	14	3	0·77016
5	10	4	0·75173	5	14	4	0·77055
5	10	5	0·75213	5	14	5	0·77093
5	10	6	0·75253	5	14	6	0·77131
5	10	7	0·75293	5	14	7	0·77169
5	10	8	0·75333	5	14	8	0·77208
5	10	9	0·75373	5	14	9	0·77246
5	10	10	0·75413	5	14	10	0·77284
5	10	11	0·75452	5	14	11	0·77322
5	11	0	0·75492	5	15	0	0·77360
5	11	1	0·75532	5	15	1	0·77398
5	11	2	0·75572	5	15	2	0·77436
5	11	3	0·75611	5	15	3	0·77475
5	11	4	0·75651	5	15	4	0·77512
5	11	5	0·75691	5	15	5	0·77550
5	11	6	0·75730	5	15	6	0·77588
5	11	7	0·75770	5	15	7	0·77626
5	11	8	0·75809	5	15	8	0·77664
5	11	9	0·75849	5	15	9	0·77702
5	11	10	0·75888	5	15	10	0·77740
5	11	11	0·75927	5	15	11	0·77777
5	12	0	0·75967	6	0	0	0·77815

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
6	0	1	0·77853	6	4	1	0·79624
6	0	2	0·77890	6	4	2	0·79660
6	0	3	0 77928	6	4	3	0·79696
6	0	4	0·77966	6	4	4	0·79733
6	0	5	0·78003	6	4	5	0·79769
6	0	6	0·78041	6	4	6	0·79805
6	0	7	0·78078	6	4	7	0·79841
6	0	8	0·78116	6	4	8	0·79877
6	0	9	0·78153	6	4	9	0·79913
6	0	10	0·78190	6	4	10	0·79948
6	0	11	0·78228	6	4	11	0·79984
6	1	0	0·78265	6	5	0	0·80020
6	1	1	0·78302	6	5	1	0·80056
6	1	2	0·78340	6	5	2	0·80092
6	1	3	0·78377	6	5	3	0·80128
6	1	4	0·78414	6	5	4	0·80163
6	1	5	0·78451	6	5	5	0·80199
6	1	6	0·78488	6	5	6	0·80235
6	1	7	0·78526	6	5	7	0·80270
6	1	8	0·78563	6	5	8	0·80306
6	1	9	0·78600	6	5	9	0·80341
6	1	10	0·78637	6	5	10	0·80377
6	1	11	0·78674	6	5	11	0·80413
6	2	0	0·78711	6	6	0	0·80448
6	2	1	0·78748	6	6	1	0 80483
6	2	2	0·78784	6	6	2	0·80519
6	2	3	0·78821	6	6	3	0·80554
6	2	4	0·78858	6	6	4	0·80590
6	2	5	0·78895	6	6	5	0·80625
6	2	6	0·78932	6	6	6	0·80660
6	2	7	0·78968	6	6	7	0·80696
6	2	8	0·79005	6	6	8	0·80731
6	2	9	0·79042	6	6	9	0·80766
6	2	10	0·79078	6	6	10	0·80801
6	2	11	0·79115	6	6	11	0·80837
6	3	0	0·79152	6	7	0	0·80872
6	3	1	0·79188	6	7	1	0·80907
6	3	2	0·79225	6	7	2	0·80942
6	3	3	0·79261	6	7	3	0·80977
6	3	4	0·79298	6	7	4	0·81012
6	3	5	0·79334	6	7	5	0·81047
6	3	6	0·79370	6	7	6	0·81082
6	3	7	0·79407	6	7	7	0·81117
6	3	8	0·79443	6	7	8	0·81152
6	3	9	0·79479	6	7	9	0·81187
6	3	10	0·79516	6	7	10	0·81222
6	3	11	0·79552	6	7	11	0·81257
6	4	0	0 79588	6	8	0	0·81291

Rs.	As.	Ps.	Logarithms.	Rs.	As.	Ps.	Logarithms.
6	8	1	0·81326	6	12	1	0 82964
6	8	2	0·81361	6	12	2	0·82997
6	8	3	0·81396	6	12	3	0·83031
6	8	4	0·81430	6	12	4	0·83064
6	8	5	0·81465	6	12	5	0 83098
6	8	6	0·81500	6	12	6	0·83131
6	8	7	0·81534	6	12	7	0·83164
6	8	8	0·81569	6	12	8	0·83198
6	8	9	0·81603	6	12	9	0·83231
6	8	10	0·81638	6	12	10	0·83264
6	8	11	0 81672	6	12	11	0·83297
6	9	0	0·81707	6	13	0	0·83331
6	9	1	0·81741	6	13	1	0·83364
6	9	2	0·81776	6	13	2	0·83397
6	9	3	0·81810	6	13	3	0·83430
6	9	4	0·81845	6	13	4	0·83463
6	9	5	0·81879	6	13	5	0·83496
6	9	6	0·81913	6	13	6	0·83529
6	9	7	0·81948	6	13	7	0·83562
6	9	8	0·81982	6	13	8	0·83595
6	9	9	0·82016	6	13	9	0·83628
6	9	10	0·82050	6	13	10	0·83661
6	9	11	0·82084	6	13	11	0 83694
6	10	0	0·82119	6	14	0	0·83727
6	10	1	0·82153	6	14	1	0·83760
6	10	2	0·82187	6	14	2	0·83793
6	10	3	0·82221	6	14	3	0·83826
6	10	4	0 82255	6	14	4	0·83859
6	10	5	0·82289	6	14	5	0·83891
6	10	6	0 82323	6	14	6	0·83924
6	10	7	0·82357	6	14	7	0·83957
6	10	8	0·82391	6	14	8	0·83990
6	10	9	0 82425	6	14	9	0·84022
6	10	10	0·82459	6	14	10	0·84055
6	10	11	0·82493	6	14	11	0·84088
6	11	0	0·82526	6	15	0	0 84120
6	11	1	0·82560	6	15	1	0·84153
6	11	2	0·82594	6	15	2	0·84185
6	11	3	0·82628	6	15	3	0·84218
6	11	4	0·82661	6	15	4	0·84251
6	11	5	0·82695	6	15	5	0 84283
6	11	6	0·82729	6	15	6	0·84315
6	11	7	0·82762	6	15	7	0·84348
6	11	8	0·82796	6	15	8	0·84380
6	11	9	0·82830	6	15	9	0·84413
6	11	10	0 82863	6	15	10	0·84445
6	11	11	0 82897	6	15	11	0·84477
6	12	0	0·82930	7	0	0	0·84510

DECIMALS

OF A

RUPEE.

As.	Ps.		As.	Ps.	
0	1	·00520833+	4	1	·25520833+
0	2	·01041666+	4	2	·2604166+
0	3	·015625	4	3	·265625
0	4	·02083333+	4	4	·270833+
0	5	·02604166+	4	5	·27604166+
0	6	·03125	4	6	·28125
0	7	·03645833+	4	7	·28645833+
0	8	·04166666+	4	8	·29166+
0	9	·046875	4	9	·296875
0	10	·05208333+	4	10	·3020833+
0	11	·05729166+	4	11	·30729166+
1	0	·0625	5	0	·3125
1	1	·06770833+	5	1	·31770833+
1	2	·0729166+	5	2	·3229166+
1	3	·078125	5	3	·328125
1	4	·0833+	5	4	·3333+
1	5	·08854166+	5	5	·33854166+
1	6	·09375	5	6	·34375
1	7	·0989583+	5	7	·34895833+
1	8	·1041666+	5	8	·354166+
1	9	·109375	5	9	·359375
1	10	·1145833+	5	10	·3645833+
1	11	·11979166+	5	11	·36979166+
2	0	·125	6	0	·375
2	1	·13020833+	6	1	·38020833+
2	2	·1354166+	6	2	·3854166+
2	3	·140625	6	3	·390625
2	4	·145833+	6	4	·395833+
2	5	·15104166+	6	5	·40104166+
2	6	·15625	6	6	·40625
2	7	·16145833+	6	7	·41145833+
2	8	·166+	6	8	·4166+
2	9	·171875	6	9	·421875
2	10	·1770833+	6	10	·4270833+
2	11	·18229166+	6	11	·43229166+
3	0	·1875	7	0	·4375
3	1	·19270833+	7	1	·44270833+
3	2	·1979166+	7	2	·4479166+
3	3	·203125	7	3	·453125
3	4	·20833+	7	4	·45833+
3	5	·21354166+	7	5	·46354166+
3	6	·21875	7	6	·46875
3	7	·22395833+	7	7	·47395833+
3	8	·229166+	7	8	·4791666+
3	9	·234375	7	9	·484375
3	10	·23958[illegible]3+	7	10	·48958[illegible]3+
3	11	·24479166+	7	11	·49479166+
4	0	·25	8	0	·5

As.	Ps.		As.	Ps.	
8	1	·50520833+	12	1	·75520833+
8	2	·5104166+	12	2	·7604166+
8	3	·515625	12	3	·765625
8	4	·520833+	12	4	·770833+
8	5	·52601166+	12	5	·77604166+
8	6	·53125	12	6	·78125
8	7	·53645833+	12	7	·78645833+
8	8	·54166+	12	8	·79166+
8	9	·546875	12	9	·796875
8	10	·5520833+	12	10	·8020833+
8	11	·55729166+	12	11	·80729166+
9	0	·5625	13	0	·8125
9	1	·56770833+	13	1	·81770833+
9	2	·5729166+	13	2	·8229166
9	3	·578125	13	3	·828125
9	4	·5833+	13	4	·8333+
9	5	·58854166+	13	5	·83854166+
9	6	·59375	13	6	·84375
9	7	59895833+	13	7	·84895833+
9	8	·604166+	13	8	·854166+
9	9	·609375	13	9	·859375
9	10	·6145833+	13	10	·8645833+
9	11	·61979166+	13	11	·86979166+
10	0	·625	14	0	·875
10	1	·63020833+	14	1	·88020833+
10	2	·6354166+	14	2	·8854166+
10	3	·640625	14	3	·890625
10	4	·645833+	14	4	·895833+
10	5	·65104166+	14	5	·90104166+
10	6	.65625	14	6	·90625
10	7	·66145833+	14	7	·91145833
10	8	·666+	14	8	·9166+
10	9	·671875	14	9	·921875
10	10	·6770833+	14	10	·9270833+
10	11	·68229166+	14	11	·93229166+
11	0	·6875	15	0	·9375
11	1	·69270833+	15	1	·94270833+
11	2	·69791666+	15	2	·9479166+
11	3	·703125	15	3	·953125
11	4	·70833+	15	4	·95833+
11	5	·71354166+	15	5	·96354166+
11	6	·71875	15	6	·96875
11	7	·72395833+	15	7	·97395833+
11	8	·729166+	15	8	·979166+
11	9	·734375	15	9	·984375
11	10	·7395833+	15	10	·9895833+
11	11	·74479166+	15	11	·99479166+
12	0	·75			